

REMARKS

Claims 1-48 are pending in the application. Claims 1-12 and 16-30 are rejected. Claims 13-15 and 31-48 are withdrawn from consideration. Applicants have cancelled the withdrawn claims 13-15 and 31-48 so that the application may be promptly passed to issue. New claims 49 and 50 are added. Support for these claims is provided throughout the application and, in particular, at page 2. .

Election/Restriction

The Examiner acknowledges Applicants' election and species selection with traverse of claims 16-30 of Group II. The Examiner has rejoined and examined all of the claims of Group I and Group II. However, the restriction of the method claims has remained in effect. The restriction requirement is still deemed proper and has been made FINAL.

Applicants thank the Examiner for the reconsideration of the requirement and the rejoinder. Applicants have cancelled the withdrawn claims. Applicants hope that the application will be allowed on the basis of Applicants' response to this Office Action.

Priority

The Examiner acknowledges Applicants' claim for foreign priority but notes that Applicants have not filed a certified copy of the priority document. Applicants' search of the file, which was transferred from another firm, does not show a filing in the USPTO of such copy or even receipt of such copy by the firm. Accordingly, Applicants are submitting herewith a certified copy of the priority document.

Claim Interpretation

The Examiner notes that claims 7-9 and 19-30 define the product by how the product was made, i.e.. they are in the category of a "product by process" claim. The Examiner advises that she is interpreting the claims as being limited only by the structure implied by the recited process steps.

The Examiner concludes that claims 7-9 imply a structure of a glass in any form.

As to claims 19-30, the examiner states that the steps imply a glass in any form which has been precision molded.

Applicants have not proposed any change to claims 7-9 or 19-27 that would address this claim interpretation. However, Applicants note that these claims all depend from parent claims that are directed to patentable compositions and that they would be patentable for reasons subsequently given.

Claim Rejections - 35 U.S.C. § 112

Claims 7-12 are rejected under 35 U.S.C. § 112, second paragraph, as being indefinite. This rejection is traversed for at least the following reasons.

Claims 7-9

As to claims 7-9, the Examiner finds the phrases “entire surface” and “solidifying melting glass as it is” to be indefinite. The Examiner has interpreted these claims to mean that the optical glass was formed into a precision press molding perform by solidifying molten glass in a drop form method, using a flow pipe.

First, Applicants disagree with the Examiner’s interpretation. Applicants respectfully submit that the phrase “entire surface” is used at page 20 to mean an entire outer surface of a melted glass gob that has been dropped in molten form from a flow pipe or similar source. The claim has been further amended to refer to an entire “outer” surface.

Second, with respect to the language “as it is,” the language has been cancelled, but Applicants submit that the meaning relates to the shape of the gob as it was dropped from the flow pipe, without any further mechanical modification, as would be clear from the disclosure at page 20. Of course, the definition is broad enough to encompass the use of gas jets to support the gob after it is dropped from the flow pipe or similar source and is cooled.

Claims 10-12

As to claims 10-12, the Examiner asserts that the phrases “entire surface” and “free surface” are unclear.

With respect to the former, again Applicants have added the word “outer.” As to the term “free surface,” Applicants submit that the teachings at pages 18-20 make it clear that the surface is “free” of any supplemental mechanical processing.

Claim Rejections - 35 U.S.C. § 103

Claims 1-12 and 16-30 are rejected under 35 U.S.C. § 103(a) as being unpatentable over Hayashi (6,844,279). This rejection is traversed for at least the following reasons.

The Examiner asserts that Hayashi et al teach an optical glass composition having overlapping ranges of components with claims 1-3 and that the optical glass is useful in applications such as precision press molding and as optical elements as recited in claims 4-12 and 16-30. However, the Examiner also comments at page 4 of the Office Action that

“Hayashi et al fail to teach any examples of compositional ranges that are sufficiently specific to anticipate the compositional and property limitations of claims 1-12 and 15-30. However, overlapping ranges have been held to establish prima facie obviousness. See MPEP 2144.05.”

The Examiner finds the limitations in claims 1-12 and 16-30 to be obvious to one of ordinary skill in the art.

The Hayashi et al reference is assigned on its face to HOYA Corporation, the assignee of the present application on the basis of an assignment recorded at reel 014884, frame 0896. The Applicants certify that the invention disclosed and claimed herein was conceived at a time when the inventors were under an obligation to assign the invention to HOYA Corporation and at a time when the Hayashi et al reference was assigned to HOYA Corporation.

On the basis of that certification and the provisions of 35 U.S.C. § 103(c), Applicants respectfully exercise their rights and request withdrawal of the Hayashi et al reference as relevant prior art. Accordingly, Applicants need not address the Examiner's rejection on a technical basis.

Claims 1-12 and 16-30 are rejected under 35 U.S.C. § 103(a) as being unpatentable over Uehara (6,797,659). This rejection is traversed for at least the following reasons.

The Examiner asserts that Uehara teaches an optical glass composition having overlapping ranges of components with claims 1-3 on the basis of the abstract and discussion at col. 3, lines 5-49. The Examiner also asserts that Uehara teaches that the optical glass is useful

in applications such as precision press molding and as optical elements as recited in claims 4-12 and 16-30, on the basis of the abstract and the discussion at col. 2, lines 52-65. However, the Examiner also comments at page 5 of the Office Action that

“Uehara fails to teach any examples of compositional ranges that are sufficiently specific to anticipate the compositional and property limitations of claims 1-12 and 15-30. Uehara teaches the optical glass in terms of weight percent. However, it is believed that if the compositional ranges of components were converted from weight percent to mole percent the compositional ranges would overlap. Overlapping ranges have been held to establish prima facie obviousness. See MPEP 2144.05.”

The Examiner finds the limitations in claims 1-12 and 16-30 to be obvious to one of ordinary skill in the art.

Claims 1-12 and 16-27

These claims are directed to an optical glass, preform made from such glass or optical element made from such preform, and are limited to a composition of glass as stated in claim 1. The Examiner's admission that the composition is not taught in Uehara is significant, in that the ranges recited in Uehara (see abstract) are substantially different from those in the present application. Attainment of the claimed ranges would not be obvious for several reasons.

First, it should be noted that both the present invention (page 2 of the application) and Uehara (col. 2, line 17) seek to improve upon the approach taken by JP 6-305769, namely, to have a glass with a lower transition temperature. However, the approach taken is completely different, thereby precluding the composition in Uehara from being modified to encompass the ranges of compositions taught and claimed in the present application.

Second, it should be noted that Uehara expressly includes the use of Ta₂O₅ in its glass, while the present invention expressly excludes such component, largely because of cost considerations. Indeed, Uehara expressly states that the quantity of Ta₂O₅ must be in the range

of 1%-10%, and expressly teaches that an amount less than 1% would prevent a significant result from being achieved (col. 5, lines 20-27).

Third, it should be noted that the reason the ranges of components other than Ta₂O₅ are specifically limited in Uehara is based upon the presence of Ta₂O₅. Applicants respectfully submit that with the use of Ta₂O₅, the ranges in the present claims would not be obvious. Indeed, Uehara teaches away from using such ranges due to the use of Ta₂O₅. Thus, even though an absence of Ta₂O₅ is not expressly stated in the claims, there would be no motivation based on the teachings of Uehara to (1) eliminate Ta₂O₅ and (2) conduct experimentation to find the ranges as claimed in the present application.

Fourth, given the three reasons above, the Examiner cannot make a *prima facie* case for obviousness and, even if such case could be made, these reasons clearly shift the burden of proof back onto the Examiner. That burden cannot be carried on the basis of the teachings in Uehara.

Thus, all of claims 1-12 and 16-27 should be held patentable.

Claims 28-30

These claims clearly depend from method claims 13-15, which have been cancelled but in turn depend from glass composition claim 1. The claims have been amended to be in product form. Applicants respectfully submit that the optical product has structural characteristics that are defined by the phrase : "press molded preform," the weight limit and the shape defined by a separated melting glass flowing out from an outflow pipe. This plus the composition of the glass clearly defines over the prior art.

New Claims

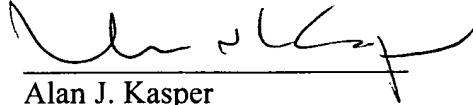
Applicants have added claims 49-50 that define the glass as having no Ta₂O₅.

In view of the above, reconsideration and allowance of this application are now believed to be in order, and such actions are hereby solicited. If any points remain in issue which the Examiner feels may be best resolved through a personal or telephone interview, the Examiner is kindly requested to contact the undersigned at the telephone number listed below.

Amendment Under 37 C.F.R. § 1.111
U.S. Application No. 10/643,991

The USPTO is directed and authorized to charge all required fees, except for the Issue Fee and the Publication Fee, to Deposit Account No. 19-4880. Please also credit any overpayments to said Deposit Account.

Respectfully submitted,



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